UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,056	11/26/2001	Robert F. Cruickshank III	24359-014	9528

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EXAMINER
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ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/995,056	CRUICKSHANK ET AL.
	Examiner	Art Unit	
	Dhairya A. Patel	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/21/05*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20,22-52,54-66* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20,22,23,33-52,54,55 and 65* is/are rejected.

7)☒ Claim(s) *24-32,56-64 and 66* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communication filed on 7/29/2005.

2. Claims 1-20,22-23,33-52,54-55,65 are rejected. Claims 21,53 are cancelled.

3. Claims 24-32,56-64,66 are objected to as being dependent upon a rejected base claim.

4. Applicant's arguments are deemed moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-8,15-20,22,33-40,47-52,54 are rejected under 35 U.S.C. 102(e)

as being unpatentable by Foulger et al. U.S. Patent Publication # 2003/0018769

(hereinafter Foulger).

As per claim 1, Foulger teaches a computer program product comprising

computer-executable instructions for causing a computer to:

-obtain performance data related to performance of a broadband network

(Paragraph 22)(Paragraph 40) and

-provide hierarchical display of network performance (Fig. 3 element

"network summary") the hierarchical display including a first level with first data

indicative of network operation (Fig. 3 element "network summary")(Paragraph

62)(Paragraph 63) and a second level with second data indicative of a plurality of

issues (Fig. 3 element 120 "route performance") comprising the first level of

network performance (Paragraph 65);

-wherein the second level includes multiple issues that contain a third level

with third data indicative of network issues (Fig. 3 element "Link performance")

comprising at least some of the secondary level issues (Paragraph

65)(Paragraph 66)

As per claim 2, Foulger teaches the computer program product of claim 1,

wherein the first data are indicative of overall performance of one of the network,

and a selected portion of the network (Fig. 3 element "network

summary")(Paragraph 62)(Paragraph 63).

As per claim 3, Foulger teaches the computer program product of claim 2

wherein the first data are indicative of overall performance of the network and the

issues at the second level include at least one of connectivity and traffic

(Paragraph 65).

As per claim 4, Foulger teaches the computer program product of claim 1

further comprising instructions for causing the computer to provide more detail of

issues comprising a selected level (Paragraph 64)(Paragraph 66)

As per claim 5, Foulger teaches the computer program product of claim 4,

wherein the more detail includes at least one of locations of network elements

associated with the selected level (column 27 lines 6-31) and metrics

corresponding to the network elements and associated with at least one issue .

comprising the selected level (Paragraph 68)

As per claim 6, Foulger teaches the computer program product of claim 5,

further comprising instructions for causing the computer to provide more detail

regarding a selected portion of the more detail provided of issues comprising a

selected level (Paragraph 68).

As per claim 7, Foulger teaches the computer program product of claim 5,

further comprising instructions for causing the computer to sort the more detail

according to at least one selected criterion (Paragraph 78).

As per claim 8, Foulger teaches the computer program product of claim 7

further comprising instructions for causing the computer to analyze the more

detail and to do at least one of:

-provide at least one of an indication of a likely network problem and a

suggested action for addressing the likely network problem (Paragraph 97); and

-implement corrective action to attempt to address the likely network

problem (Paragraph 98).

As per claim 15, Foulger teaches the computer program product of claim

1, wherein the hierarchical display is independent of an amount of network

elements contributing to the indicia of network performance (Fig.

3,4,5)(Paragraph 62).

The reference teaches hierarchical display in figures 3, 4,5, and the

display is independent of an amount of network contributing to indicia of network

performance as seen in table of fig. 5 where there are number of network

elements in different location.

As per claim 16, Foulger teaches the computer program product of claim

15, wherein the second data are indicative of network issues perceived to affect

network performance more than network issues absent from the display (Fig.

5)(Paragraph 66)(Paragraph 68).

As per claim 17, Foulger teaches the computer program product of claim 1

wherein the displayed data associated with levels provide indicia of absolute

performance of portions of the network associated with the respective levels (Fig.

5 element "(Paragraph 71).

As per claim 18, Foulger teaches the computer program product of claim 1

wherein the displayed data associated with levels provide indicia of relative

performance of portions of the network associated with the respective levels (Fig.

5 element "average latency")(Paragraph 71).

As per claim 19, Foulger teaches the computer program product of claim 18 wherein the displayed data associated with levels provide indicia of absolute performance of portions of the network associated with the respective levels (Fig. 5 element "average latency")(Paragraph 71).

As per claim 20, Foulger teaches the computer program product of claim 19, further comprising instructions for providing a display of the data associated with levels over time (Fig. 7,8,10).

The figure shows graph of site weather (first level), latency (second level), volume (third level) over time.

As per claim 22, Foulger teaches the computer program product of claim 1 wherein the first and second data provide indicia of grades of degradation of performance of at least portions of the network as a function of time (Paragraph 68)(Fig. 7,8,10).

As per claims 33-40 respectively, teaches same limitations as claims 1-8 respectively, therefore rejected under same basis.

As per claims 47-52,54 respectively, teaches same limitations as claims 15-20,22 respectively, therefore rejected under same basis.

As per claim 65, it teaches same limitation as claim 1, therefore rejected under same basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 9-14,41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foulger et al. U.S. Patent Publication # 2003/0018769 (hereinafter Foulger) in view of Feinberg et al. U.S. Patent # 6,798,745 (hereinafter Feinberg).

As per claim 9, Foulger teaches the computer program product of claim 1 but fails to teach wherein the collected data are metrics of network performance derived from raw data indicative of network activity. Feinberg teaches the collected data are metrics of network performance derived from raw data indicative of network activity (column 5 lines 30-45).

Feinberg teaches collected data are of QoS events (metric) of the network performance indicating types of packet loss, packets received out of sequence etc. which are derived from shaping the raw data.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Feinberg's teaching in Foulger's teaching to come up with collected data are metric of network performance derived from the raw data. The motivation for doing so would have been to find out how the network is performing indicating packets loss, jitter, excessive network delay and how much information transfer rate is.

As per claim 10, Foulger and Feinberg teaches the computer program product of claim 9 but Foulger fails to teach further comprising instructions for causing the computer to derive the metrics from the raw data. Feinberg teaches

instructions for causing the computer to derive the metrics from the raw data
(column 5 lines 40-45) It would have been obvious to one of ordinary skill in the
at the time of applicant's invention to implement Feinberg's teaching in Foulger's
teaching to come up with deriving the metric from the raw data. The motivation
for doing so would have been to find out how the network is performing indicating
packets loss, jitter, excessive network delay and how much information transfer
rate is.

As per claim 11, Foulger and Feinberg teach the computer program
product of claim 10, further teaches least portion of a broadband network but
Foulger fails to teach wherein the instructions for causing the computer to derive
the metrics include instructions for causing the computer to: obtain first metrics of
performance of at least a portion of the network; and combine a plurality of first
metrics into a second metric of network performance indicative of a higher-level
of network performance than indicated by the first metrics. Feinberg teaches the
instructions for causing the computer to derive the metrics include instructions for
causing the computer to:

-obtain first metrics of performance of at least a portion of the network
(column 5 lines 31-45); and

Feinberg teaches obtaining QoS parameter data or also known as QoS
events (first metrics).

combine a plurality of first metrics into a second metric of network
performance indicative of a higher-level of network performance than indicated
by the first metrics (column 5 lines 31-60)

Feinberg teaches combining QoS events into QoS parameter value (second metric of network performance of higher-level network performance) to indicate which QoS events have been lost.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Feinberg's teaching in Foulger's teaching to come up with obtain first metric of performance and combine first metrics into second metrics indicative of higher-level of network performance in the broadband network. The motivation for doing so would have been to find out metric of the network performance and this information can be used to find out and to compare the network metric with other part of the network and find out which part of the network is not performing well and which may be bringing the network performance down.

As per claim 12, Foulger and Feinberg teaches the computer program product of claim 11 but Feinberg further teaches wherein the instructions for causing the computer to combine first metrics weight different metrics differently dependent upon perceived relevance of an issue associated with the metric to network performance (column 5 lines 40-49)

As per claim 13, Foulger and Feinberg teaches the computer program product of claim 10 but Feinberg further teaches wherein the instructions for causing the computer to derive the metrics include instructions for causing the computer to perform comparisons of first metrics derived from the raw data with thresholds and to provide second metrics based upon the comparisons (column 5 lines 40-60)

The reference teaches shaping the raw data which comprises QoS events (first metric derived from raw data w/ thresholds) to obtain QoS parameter value (second metric) based on comparisons.

As per claim 14, Foulger and Feinberg teaches the computer program product of claim 13, but Feinberg further teaches wherein the second metrics provide indicia of grades of degraded performance of portions of the network as a function of time (column 5 lines 45-49)(column 5 lines 49-64).
The reference teaches the QoS parameter value (second metric) is produced by summing the total number of lost packets (degraded performance of the network) in a one second period (as a function of time).

As per claims 41-46, they teach same limitation as claims 9-14, therefore rejected under same basis.

7. Claims 23,55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foulger et al. U.S. Patent Publication # 2003/0018769 (hereinafter Foulger) in view of Dziekan et al. U.S. Patent # 6,704,288 (hereinafter Dziekan).

As per claim 23, Foulger teaches the system of claim 22, the first metrics indicate numbers of cable-modem hours at the levels of performance of the network (Paragraph 68)(Fig. 7,8,10) but fails to teach the network is a DOCSIS network including cable modems and cable modem termination systems, and. Dziekan teaches network is a DOCSIS network including cable modems and cable modem termination systems (Column 1 lines 31-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Feinberg's invention in Dziekan's invention to come up with DOCSIS

network with cable modems and cable modem termination system. The motivation for doing so would have been to monitor the levels of performance of the network.

As per claim 55, it teaches same limitations as claim 23, therefore rejected under same basis.

Allowable Subject Matter

8. Claims 24-32,56-64,66 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A). "Quality of service management for voice over packet networks" by Feinberg et al. U.S. Patent # 6,798,745.

B). "Arrangement for discovering the topology of an HFC access network" by Dziekan et al. U.S. Patent # 6,704,288.

C). "Method of Backtracking network performance" by Foulger et al. U.S. Patent Publication # 2003/0018769.

10. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the applicant (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

11.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dhairya A Patel whose telephone number is (571) 272-4066. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAP

ZARNI MAUNG
SUPERVISORY PATENT EXAMINER